



Introduction to Sandia National Laboratories

**National Workshop on Biosecurity
Thailand Science Park, Pathumthani, Thailand
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Sandia National Laboratories**



Sandia is a US Department of Energy national science and engineering laboratory

- **Headquartered in Albuquerque, New Mexico, USA**
- **8300 staff**
- **\$2.2 billion dollars revenue per year**
- **Government owned and contractor operated, but wholly non-profit**
- **Collaborators include:**
 - **US Department of State**
 - **US Department of Health and Human Services, US Centers for Disease Control and Prevention, US National Institutes of Health**
 - **US Department of Agriculture, US Agricultural Research Service, US Animal and Plant Health Inspection Service**
 - **Environmental Protection Agency**
 - **US Department of Transportation**
 - **US Department of Defense**
 - **US Department of Homeland Security**
 - **Universities throughout the world**

Sandia seeks to harness science and technology for the safety and security of the US and the globe

- Sandia's many capabilities include

- Biosciences and Technology
- Computer and Information Sciences
- Material Sciences
- Engineering Sciences
- Modeling and Simulation

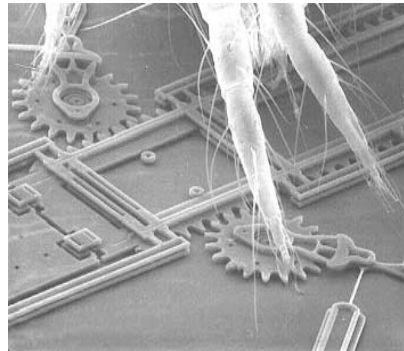


Security of chemical plants

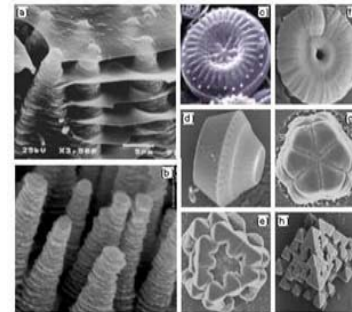
Magi-Cube can blow a fragment-free hole to see accident victims.



Police kits to identify the shooter of a gun



Dust mite on a micromachine



Nanocrystals mimic bio structures



Sandia's Principal Business Areas

- **Nonproliferation and Assessments**
 - Reducing the nation's and the world's vulnerability to threats of proliferation and weapons of mass destruction
- **Energy and Infrastructure Assurance**
 - Enhancing the surety of energy and other critical resources
- **Homeland Security**
 - Harnessing science and technology to combat terrorism and protect the nation
- **Nuclear Weapons**
 - Ensuring the safety of the nuclear weapons stockpile
- **Military Technologies and Applications**
 - Developing high-impact responses to emerging national and international security threats

Sandia International Security Programs

*We create total technology system solutions,
through international cooperation,
to reduce the threat of
weapons proliferation and terrorism.*

ISP Functional Areas

*Nuclear Nonproliferation
and Combating Terrorism*

Regional Security

Biological Security

ISP Program Areas

Regional Security

- Middle East
- South Asia
- Northeast Asia
- Southeast Asia

- US/Russia Nuclear Security
- Borders/Maritime Security
- Radiological Threat Reduction
- International Safeguards and Physical Security

Global Biological Materials Management



ISP Foundations

Cooperative Monitoring Center (CMC)



Sandia
National
Laboratories



Global Biological Materials Management

- **Biosecurity**

Securing dangerous pathogens and toxins in laboratories and in transit against theft and sabotage

- **Biosurveillance**

Monitor public and animal health to provide early indications of disease caused by dangerous pathogens and toxins

- **Biodetection**

Develop and implement technology to rapidly detect the dissemination of dangerous pathogens and toxins

- **Bioengagement**

Facilitate the transition of biological weapons scientists from defense to civilian activities and increase the transparency of legitimate facilities

[**www.biosecurity.sandia.gov**](http://www.biosecurity.sandia.gov)